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Projecting and Methods of Active Learning in Primary and Pre-Primary Education

Vladimíra Hornáčková^a*, Veronika Kyrálová^a, Gabriela Plachá^a, Lada Jiroutová^a

^aDepartment of Primary and Pre-Primary Education, University of Hradec Králové, Rokitanského 62, Hradec Králové 500 03, Czech Republic

Abstract

This contribution refers to the project teaching and methods of active teaching in Czech Republic primary schools and kindergartens. Detects the application of project teaching and active teaching methods in primary and pre-primary education, to reflect the current state, analyze and discover reserves in the application and concurrently to compare research results in selected indicators between kindergartens and primary schools. and to reveal differences in their application in primary and pre-primary education

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1. Introduction

The teachers in contemporary primary and nursery schools are more and more interested in the methods and forms of work which make the children actively participate at the learning process.

The time has long passed when teachers needed merely information and nothing more, since information has become easily accessible in media. Other skills have become far more important objects of primary and pre-primary education, such as comparison, researching, experimenting, data processing, communication, cooperation, assessment and mainly efficient use of information and building on them. The concept of the child – pupil and the related changes in the interaction between the participants of the education process is undergoing a radical transformation.

* Corresponding author. Vladimira.Hornackova. Tel.: +4-204-933-31369; fax: +4-204-933-1313.

E-mail address: vladimira.hornackova@uhk.cz

What deserves a good deal of attention in this transformational process is project education and the methods of active learning, which provide the child with direct experience with his/her, own activity. The child perceives globally, therefore it is suitable to arrange the presented information around one topic, which is what is made possible by project learning. It puts the teacher in the role of an advisor, organiser, guide, facilitator or a partner who helps the child as to find the connections within the subject matter, understand the causes of problems and the individual behaviour of his/her peers etc. A primary school or nursery school teacher is expected to respect the child's right to natural development and to become a "bridge" between the children's world and the world of adults, connecting school matters with real life in a natural way. The teacher should make today's school more active and creative for the children as well as for himself/herself in comparison with "traditional" education. At the same time Šmelová (2009) states that before teachers is difficult pedagogical work with the very beginning of the implementation of RVP PV. If they have to be able to plan, they should understand the nature of concepts RVP PV and deal with this difficult task, both teachers with long-and short-term teaching practice.

2. Theoretical bases

The word "project" is sometimes used to refer to anything that is not "traditional education". This includes excursions, thematic school events or teamwork at checkpoints, which are not actual projects. Primary and nursery schools offering modern ways of education are expected to rely on project education and methods of active learning, which create more space for the children's activity, independence and creativity, increasing the efficiency of teaching. Contemporary definitions of projects or project methods do not differ much from the historical ones. *Pedagogický slovník* (Pedagogical Dictionary) of Průcha, Walter and Mareš (2001, p. 168) says that "projects can have the form of integrated topics, practical real life problems or activity resulting in the creation of an artistic or verbal product". This definition agrees with the one of Maňák and Švec (2003, p. 168): "Project can be defined as a complex practical task (problem, topic) connected with real life whose solution requires theoretical as well as practical work leading to the creation of an adequate product". Kratochvílová (2006, p. 35) stresses the tendency to use a topic as the core of a project: "Current concept of the project is usually focused on its core in the form of a task or a complex problem. A novelty is the core in the form of a topic".

Kasíková (In Valenta, 1993) claims that projects are based on the following principles:

- The emphasis on the needs and interest of the child – projects respond to the children's need of active encounter with the world, the need for new experience, knowledge and skills and the need to take responsibility for his/her own work
- The emphasis on the current situation – the principle of "opening" the school to knowledge, people, itself; impulses coming from the personal situation of an individual and the child's environment are current
- Interdisciplinary – projects bring complex knowledge instead of isolated skills and pieces of information concerning just one subject
- Self-regulation – the teacher's role changes from controlling to consulting, controlling activities are taken over by the pupil himself/herself
- Focus on the product – projects focus on real life, in which work and activity creates a product (project learning is connected with the creation of boards, project maps, photos, videos, handmade objects)
- Team realization – project education supports meaningful teamwork
- Social relevance – project education can become a bridge between the life of the school and the life of the municipality and society

A teacher preparing a project has to be aware that s/he becomes the "pillar" of the whole process in all its four stages – the intention, planning, realization and assessment. It is essential to make the children involved

right from the beginning of the project and give them the opportunity to cooperate, participate on the project and provide feedback. For this it is also necessary to ask different types of questions (the ability that Czech teachers are not proficient too much, see Haviger, Havigerová, 2012).

The creators of the concepts of the Teacher Training study programmes at the Faculty of Education at the University of Hradec Králové are fully aware of the difficulty of the development of the competence to make projects in prospective teachers. That is why the issue of projects is included in the study in connection with practical training in primary and nursery schools. The emphasis is on the development of the competences necessary for the active understanding of the essence of project education and the methods of active learning as the basic elements of creative and efficient education.

This research focuses on the following questions: Are the methods of active learning and project education used in nursery and primary schools? Are there differences in their use between nursery and primary schools?

3. Research Methodology

The aim of this research is to learn about the use of project education and methods of active learning at primary and nursery schools in the Czech Republic, reflect on the current situation and identify the differences in the use of the methods in primary and pre-primary education. The research is *qualitative* and *comparative* and it relies on the *questionnaire* method. Its elemental form consisted in the analysis of the current situation and the identification of strong and weak points of the use of active learning and project education at nursery and primary schools.

The goal of the research is to learn about the understanding and realization of project education and active learning at nursery and primary schools. The following *part targets* were fixed:

- Analyse the use of project education at primary and nursery schools.
- Analyse the use of active learning at primary and nursery schools.
- Results – analysis of the obtained data.
- Compare the results concerning primary/pre-primary education.

Students of the Faculty of Education of the University of Hradec Králové participated on the research; therefore the following *secondary objectives* were fixed:

- Encourage direct contact of the students in the programme Teacher Training with the environment at nursery and primary schools.
- Develop the abilities of students needed for the realization of scientific research projects (socio-psychological skills in fieldwork, cognitive skills in the work with information),
- Present the results in a professional periodical and at an international scientific conference,
- Provide inspiration for the improvement of project education and active learning at nursery and primary schools.

Research steps:

First of all, we studied the accessible Czech as well as international material (professional literature, internet sources) treating the given issue of project education and active learning in cooperation with the students of UHK. We fixed the part targets and created the questionnaire. We specified the methodological procedures and techniques of obtaining data. Analysis of the current state, processing of the obtained data and statistical processing followed. An interesting part was the interpretation and discussion of results and the search for correlations. The following aim of ours was to write a final report suitable for the publication in a professional periodical and the presentation at an international conference.

4. Research results – interpretation and discussion of results

We bring the interpretation of the **selected** results of our research, which lead to discussion and comparison. We also select and present several tables and graphs containing the most important data. (Table 1).

Question No. 1 in table 1: Where did you gain the greatest amount of information concerning project education?

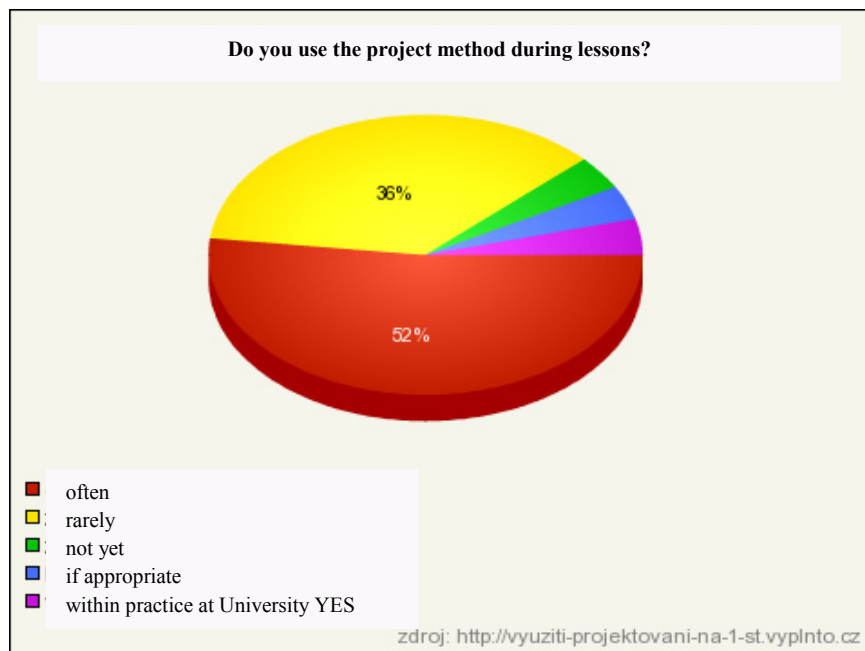
Table1. Where did you gain the greatest amount of information concerning project education?

Answer	Percentage
Study (secondary school, university)	16,7%
Internet	0 %
Professional publications	0 %
Seminars, courses, workshops	75 %
Other	8,3%

Commentary: Table No. 1 brings data concerning the source which provided the greatest amount of information about project education to the respondents. 75 % of the respondents gained the information in seminars, courses and workshops, 16,7 % got it during their study and 8,3 % only were unable to choose one of the proposed answers.

Question No. 2 in chart No. 1: Do you use the project method during lessons at school?

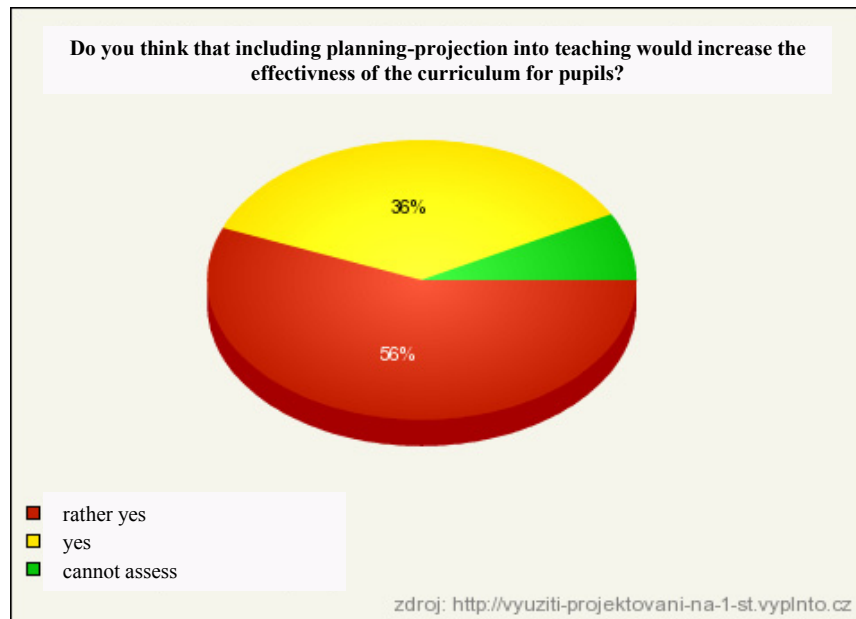
Graph No. 1: Do you use the project method during lessons at school?



Commentary: It is evident from the chart No. 1 that project method is not yet still firmly anchored, as it is evidenced by the 52% (anyway only a half of) respondents, who answered that they use this method often. Further 36 % respondents include in teaching planning-project method very rarely. It is clear that from other items that project method is not used or only rarely by 12%. The chart shows the reality of using project method at schools so that using of this method in teaching is not as perfect as we would wish to be.

Question No. 3 in the chart No. 2: Do you think that including planning – projecting into teaching would increase the effectiveness of the curriculum for pupils?

Chart No. 2 - Do you think that including planning-projection into teaching would increase the effectiveness of the curriculum for pupils?



Commentary: Chart No. 2 shows that respondents realise the importance of projecting in teaching and this project method increases the effectiveness of curriculum for pupils. Answers rather yes at 56%, yes at 36% and only at 8% could not assess the following issue. The result gives a positive view towards effectiveness of the curriculum yet application of project method exists only by a half of respondents.

Question No. 4 in table 2: Within what subjects do you use project (planning) – project teaching the most? (Please indicate the order 1. (the most) - 5. (the least))

Table2. Within what subjects do you use project method – project teaching the most?

Subjects	Order of use
Czech language	3
Mathematics	3,7
Foreign language	2
Man and his world	1,8
Art	3

Music	4,4
Other	0

Commentary: Table No. 2 describes that most teachers of 1st grade of primary school use project method within the field of Man and his world (integration of natural science, geography), further more in art and the third place is dedicated to Czech language. Very rarely project teaching is implemented in lessons of foreign languages and music, we consider this a pity.

Question No 5 in table 3: Which activating method do you use in teaching the most? (Please indicate the order 1. (the most) – 5.(the least)

Table3. Which activating method do you use in teaching the most? (Please indicate the order 1=the most, 5 =the least)

Activating methods	Order of use
Interview / Discussion	2,6
Problem teaching (Heuristic method)	2,4
Life learning situations / Teaching drama	4,6
Educational games	1,7
Group / Partner instruction	2,3
Planning of teaching	3,8
Manipulating, laboratory, experimenting	3,6
Brainstorming	4,6
Computer supported teaching	3,6

Commentary: Among most often used activating methods in teaching are: didactical games, group/partner instruction, interview/discussion. Project teaching took place between third and fourth position and it corresponds with the results in the chart No 1.

5. Conclusion

A qualitative comparative research was used in the survey and where was used a content analysis and unstandardized questionnaire of its own construction for teachers of nursery and primary schools. The research is a great asset of its results relating to a monitoring the issue of project teaching and implementing active method of learning at 1st grade of primary schools and at nursery schools. For development of all results there will be especially beneficial the comparison of gained data processed using descriptive methods and correlations at other selected results. A detailed reflective view is gained and detection of strengths and weaknesses is found at application of project method and activating methods in primary and pre-primary education.

Selected results revealed so called bottlenecks of projecting at schools where attention needs to be paid mainly in the area of teachers' training. At the same time the results highlighted the fact that it is still necessary to focus on this issue in the study at Faculties of Education and future teachers of primary and nursery schools should be intensively educated in this issue. Obtained data bring also incentives for subjects' innovation in terms of modern concept of teachers' training of primary and nursery schools and students at faculties of education.

Today's teacher uses in her/his work a number of competencies. One of the important competences of teachers should be the ability to project didactical activities and their integration in a compatible unit. Younger school and preschool age is full of permanent physical and mental activities, a child shows a big interest in the

outside world. This fact must be taken into an account while curriculum planning. The child should be offered a wide range of activities that would develop his personality and that is projects making with implementation of active methods at school.

The results also pointed out the issues in primary and pre-primary education in the context of curriculum reform. We believe that the results' presentation of the research can help to increase the interest in project teaching and activating methods in education and can positively influence its quality and utilization efficiency at schools.

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